ELSEVIER

Bioenergetics
(including Reviews on Bioenergetics)
Vol. 1185, 1994

BBA
Biochimica et Biophysica Acta

Cumulative Contents

Information for Contributors *vii*

Review

Functional principles of solute transport systems: concepts and perspectives
R. Krämer (Germany) 1

Regular Papers

ESEEM and ENDOR studies of the Rieske iron-sulphur protein in bovine heart mitochondrial membranes
J.K. Shergill and R. Cammack (UK) 35

ESEEM studies of the iron-sulphur clusters of succinate dehydrogenase in *Arum maculatum* spadix mitochondrial membranes
J.K. Shergill and R. Cammack (UK) 43

Product-activation of *Escherichia coli* membrane-bound H^+-ATPase (F_1F_0-ATPase) connected with ϵ-subunit at alkaline pH
J.-H. Wu, S.-G. Li and Z.-H. Lin (People's Republic of China) 50

Photoacoustic detection of flash-induced charge separation in photosynthetic systems. Spectral dependence of the quantum yield
R. Delosme, D. Béal and P. Joliot (France) 56

Redox interaction of Tyrosine-D with the S-states of the water-oxidizing complex in intact and chloride-depleted Photosystem II
Z. Deák, I. Vass and S. Styring (Sweden, Hungary) 65

Immobilization of the three extrinsic proteins in spinach oxygen-evolving Photosystem II membranes: roles of the proteins in stabilization of binding of Mn and Ca^{2+}
I. Enami, T. Tomo, M. Kitamura and S. Katoh (Japan) 75

Two pK values of the oxidised 'Rieske' [2Fe-2S] cluster observed by CD spectroscopy
T.A. Link (Germany) 81

A comparison of the photochemical activity of two forms of Photosystem II reaction centre isolated from sugar beet
G. Montoya, J. De las Rivas, P.J. Booth, L.B. Giorgi, D.R. Klug, G. Porter, J. Barber and R. Picorel (Spain, UK) 85

A possible protein motion during the bacteriorhodopsin photocycle detected by combined photothermal beam deflection and optical detection
P.J. Schulenberg, W. Gärtner and S.E. Braslavsky (Germany) 92

Ultrastructural localisation of carnitine acetyltransferase activity in mitochondria of rat myocardium
A. Bakker, W. Biermans, H. Van Belle, M. De Bie, I. Bernaert and W. Jacob (Belgium) 97

A XANES study of the manganese complex of inhibited PS II membranes indicates manganese redox changes between the modified S_1, S_2 and S_3 states
D.J. MacLachlan, J.H.A. Nugent and M.C.W. Evans (UK) 103

Changes in thylakoid behaviour in chloride-free media
J. Sinclair (Canada) 112

Prompt heat release associated with ΔpH-dependent quenching in spinach thylakoid membranes
C.W. Mullineaux, A.V. Ruban and P. Horton (UK) 119

Short Sequence-Paper

The cDNA sequence of the flavoprotein subunit of human heart succinate dehydrogenase
A.A.M. Morris, L. Farnsworth, B.A.C. Ackrell, D.M. Turnbull and M.A. Birch-Machin (UK, USA) 125

Review

Molecular physiology of Na^+/H^+ antiporters, key transporters in circulation of Na^+ and H^+ in cells
E. Padan and S. Schuldiner (Israel) 129

Regular Papers

Effect of aspartate and glutamate on the oxoglutarate carrier investigated in rat heart mitochondria and inverted submitochondrial vesicles
J.J. Hautecler, C.M. Sluse-Goffart, A. Evens, C. Duyckaerts and F.E. Sluse (Belgium) 153

Blue form of bacteriorhodopsin and its order–disorder transition during dehydration
S. Wakatsuki, Y. Kimura, W. Stoeckenius, N. Gillis, D. Eliezer, K.O. Hodgson and S. Doniach (USA) 160

FDMR of chlorophyll triplets in integrated particles and isolated reaction centres of Photosystem II. Identification of P680 triplet
D. Carbonera, M. Di Valentin, G. Giacometti and G. Agostini (Italy) 167

Temperature-dependent electron spin polarization of the triplet state of the primary donor in *Rhodopseudomonas viridis*
J.S. van den Brink, H. Manikowski, P. Gast and A.J. Hoff (The Netherlands) 177

Towards a vibrational analysis of spheroidene. Resonance Raman spectroscopy of ^{13}C-labelled spheroidenes in petroleum ether and in the *Rhodobacter sphaeroides* reaction centre
P. Kok, J. Köhler, E.J.J. Groenen, R. Gebhard, I. van der Hoef, J. Lugtenburg, A.J. Hoff, R. Farhoosh and H.A. Frank (The Netherlands, USA) 188

Biochemical and spectroscopic characterization of the reaction center-LH1 complex and the carotenoid-containing B820 subunit of *Chromatium purpuratum*
C.A. Kerfeld, T.O. Yeates and J.P. Thornber (USA) 193

Characterization and partial purification of the VDAC-channel-modulating protein from calf liver mitochondria
M.Y. Liu, A. Torgrimson and M. Colombini (USA) 203

Microenvironments of tyrosine D^+ and tyrosine Z^+ in Photosystem II studied by proton matrix ENDOR
H. Mino and A. Kawamori (Japan) 213

Measurement of unidirectional $P_i \rightarrow$ ATP flux in lamb myocardium in vivo
M.A. Portman (USA) 221

The A_T thermoluminescence band from *Chlamydomonas reinhardtii* and the effects of mutagenesis of histidine residues on the donor side of the Photosystem II D1 polypeptide
D.M. Kramer, R.A. Roffey, Govindjee and R.T. Sayre (USA) 228

Rapid Report

Evidence for two different Rieske iron-sulfur proteins in the cytochrome *bf* complex of spinach chloroplast
S.-G. Yu, E. Romanowska, Z.-t. Xue and P.-Å. Albertsson (Sweden) 239

Short Sequence-Papers

Cloning and nucleotide sequence of the gene for NADH : FMN oxidoreductase from *Vibrio harveyi*
Y. Izumoto, T. Mori and K. Yamamoto (Japan) 243

Nucleotide sequences of the *psaA* and the *psaB* genes encoding the reaction center proteins of Photosystem I in *Anabaena variabilis* ATCC 29413
K.J. Nyhus, K. Sonoike and H.B. Pakrasi (USA) 247

Full-length cDNA sequences for both ferredoxin-thioredoxin reductase subunits from spinach (*Spinacia oleracea* L.)
E. Falkenstein, A. von Schaewen and R. Scheibe (Germany) 252

Corrigendum 255

Regular Papers

Lumenal side histidine mutations in the D1 protein of Photosystem II affect donor side electron transfer in *Chlamydomonas reinhardtii*
R.A. Roffey, D.M. Kramer, Govindjee and R.T. Sayre (USA) 257

Structural factors of antimycin A molecule required for inhibitory action
N. Tokutake, H. Miyoshi, T. Satoh, T. Hatano and H. Iwamura (Japan) 271

Inhibitions of Photosystem II activity by proton gradient
A.M. Ehrenheim, G. Finazzi and G. Forti (Italy) 279

Electron spin echo envelope modulation spectroscopy of the molybdenum center of xanthine oxidase
G.A. Lorigan, R.D. Britt, J.H. Kim and R. Hille (USA) 284

The effects of ultraviolet-B radiation on the CF_0F_1-ATPase
J. Zhang, X. Hu, L. Henkow, B.R. Jordan and Å. Strid (Sweden, UK) 295

Effects of cytochrome *c* on the oxidation of reduced cytochrome *c* oxidase by hydrogen peroxide
A.L. Lodder, R. Wever and B.F. Van Gelder (Netherlands) 303

Sulfonates are low-affinity ligands for the GDP-binding site of brown-fat mitochondria
J. Nedergaard and B. Cannon (Sweden) 311

Spectral alterations in *Rhodobacter capsulatus* mutants with site-directed changes in the bacteriochlorophyll-binding site of the B880 light-harvesting complex
L.M. Olivera, W.H.J. Westerhuis and R.A. Niederman (USA) 318

Effects of the creatine analogue β-guanidinopropionic acid on skeletal muscles of mice deficient in muscle creatine kinase
J. Van Deursen, P. Jap, A. Heerschap, H. Ter Laak, W. Ruitenbeek and B. Wieringa (Netherlands) 327

Transient kinetic and oxidation-reduction studies of spinach ferredoxin : nitrite oxidoreductase
M. Hirasawa, G. Tollin, Z. Salamon and D.B. Knaff (USA) 336

In vitro ATP-dependent F-actin sliding on myosin is not influenced by substitution or removal of bound nucleotide
N. Oishi and H. Sugi (Japan) 346

Cumulative Contents, Vol. 1185 351

Author Index 355